

REMARKS

This Amendment is in response to the Office Action mailed August 21, 2001 (paper no. 9). In that Office Action, claims 1, 2, 4, and 7 were rejected under 35 USC 102(b) over US Patent 2,835,480 to Perez. Claim 9 was rejected under 35 USC 102(b) over US Patent D228,949 to Schwartzstein. Claim 11 was rejected under 35 USC 102(b) over US Patent 5,129,451 to Moir et al. Claim 20 was rejected under 35 USC 102(b) over US Patent 5,118,927 to Eisenhower. Claims 22 and 23 were rejected under 35 USC 102(b) over US Patent 3,229,757 to Root et al. Claims 6 and 21 were rejected under 35 USC 103(a) over US Patent 2,835,480 to Perez.

Claim 22 was objected to as containing a minor typo.

Applicant respectfully traverses these rejections for the reasons set out hereinafter.

Claim 1 has been rewritten to recite the use of at least two input heat transfer elements extending into the mass of product with the input heat transfer elements being in parallel spaced planes. Perez does not have input heat transfer elements in parallel spaced planes. With reference to Figures 7 and 8 of Perez, and to the text of the patent at column 4, lines 50-53, the central tube portion 68 of Perez has two diametrically opposite radially extending fins 69 and 70 to provide a rigid and reinforced tube 68 that can withstand the thrust of the pin into the meat mass. Thus, Perez does not disclose or suggest at least two input heat transfer elements in parallel spaced planes. In fact, Perez teaches away from this structure as Perez is concerned about the structural configuration of the tube 68 to resist insertion forces, not in using fins 69 and 70 as heat transfer elements. Thus, claim 1 and claims 2, 4, 6, 7, 9, 11, 20 and 21 dependent thereon are believed patentable over the references of record.

In view of the patentability of claim 1 over the art of record, the rejections over the Schwartzstein, Moir and Eisenhower references are believed moot.

Claims 22 and 23 have been amended to recite product contacting input heat transfer elements. The Root patent does not disclose or suggest product contacting input heat transfer elements. Root discloses only two banks of thin heat dissipator ribs a, b, w, x, etc. With respect to claim 22, Root further does not disclose product contacting input heat transfer elements being

fins having first and second major fin surface areas with the fin surface areas being generally parallel. In fact, Root et al teaches away from such a structure as the transistor unit 14 in Root et al is mounted on a single, planar surface.

For the reasons set forth above, allowance of all pending claims in the application is respectfully requested.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 1 (Amended). An apparatus for rapidly changing the temperature of a mass of product, comprising:

at least two input heat transfer elements [at least one input heat transfer element] extending into the mass of product, the input heat transfer elements being in parallel spaced planes;
at least one output heat transfer element in thermal contact with the input heat transfer elements [element] and exposed to an ambient temperature environment to transfer thermal energy between the product mass and the ambient temperature environment.

Claim 2.(Amended) The apparatus of Claim 1 wherein [said at least one input heat transfer element defines a plurality of product contact fins and] said at least one output heat transfer element defines a plurality of air contact fins.

Claim 22.(Amended) An apparatus for rapidly changing the temperature of a mass of product, comprising:

a plurality of product contacting input heat transfer elements for insertion within the mass of product, the input heat transfer elements being fins having first and second major fin surface areas, the fin surface areas of said input heat transfer elements being generally parallel;

a plurality of output heat transfer elements in thermal contact with the plurality of input heat transfer elements and an ambient temperature environment to transfer thermal energy between the product mass and ambient temperature environment, the output heat transfer elements being fins having first and second major fin surface areas, the fin surface areas of said output heat transfer elements being generally parallel each other and generally parallel to the fin surface areas of the input heat transfer elements.

Claim 23.(Amended) An apparatus for rapidly changing the temperature of a mass of product, comprising:

a plurality of product contacting input heat transfer elements for insertion within the mass of product;

a plurality of output heat transfer elements in thermal contact with the plurality of input heat transfer elements and to an ambient temperature environment to transfer thermal energy between the product mass and ambient temperature environment, the input and output heat transfer elements formed of an single extruded body of aluminum.